



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/064,641 | 08/01/2002 | George Cheng | 9330-US-375 | 2124 |

31561 7590 07/13/2004

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER

PHAM, TUAN

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2643

DATE MAILED: 07/13/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/064,641

Applicant(s)

CHENG, GEORGE

Examiner

TUAN A PHAM

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08-01-2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Hsieh (U.S. Patent No.: 6,683,948).

Regarding claims 1 and 4, Hsieh teaches a DTMF decoder that combines software and hardware (see figure 1, col.3, ln.22-25), comprising:

an amplifier, used to amplify and reshape a DTMF signal and output an amplified DTMF signal (see figure 1, amplifier 16, col.3, ln.11-25);

an analog to digital converter, coupled to the amplifier, used to convert the amplified DTMF signal from analog to digital and output a digital DTMF signal (see figure 1, A/D converter 17, col.3, ln.11-25); and

a CPU, coupled to the analog to digital converter, used to perform a digital filtering on the digital DTMF signal to complete a decoding operation (see figure 3, microprocessor 12, col.3, ln.11-38).

Regarding claims 2 and 5, Hsieh further teaches the DTMF decoder that combines software and hardware wherein the amplifier comprises a non-invert terminal, an invert terminal, and an output terminal (see figure 1, amplifier 16). It is inherently that the amplifier should be included a non-invert terminal, an invert terminal, and an output terminal).

Regarding claims 3 and 6, Hsieh further teaches the DTMF decoder that combines software and hardware wherein the non-invert terminal couples to a first terminal of a telephone line, the invert terminal couples to a second terminal of the telephone line, and the output terminal outputs the amplified DTMF signal (see figure 1, Tip and Ring, amplifier 16, col.3, ln.11-25). See explanation of claim 2.

Regarding claim 7, Hsieh teaches an operating method of a DTMF decoder that combines software and hardware, comprising:

amplifying and reshaping a DTMF signal to output an amplified DTMF signal (see figure 1, amplifier 16, col.3, ln.11-25);

converting the amplified DTMF signal from analog to digital to output a digital DTMF signal (see figure 1, A/D converter 17, col.3, ln.11-25); and

performing a digital filter on the digital DTMF signal to complete a decoding operation (see figure 3, microprocessor 12, col.3, ln.11-38).

Regarding claim 8, Hsieh further teaches the operating method of a DTMF decoder that combines software and hardware wherein the DTMF signal is amplified and reshaped by an amplifier (see figure 1, amplifier 16, col.3, ln.11-25). It should be understood that the amplifier 16 is amplifying the analog signal and reshaped the waveform from TIP and RING.

Regarding claim 9, Hsieh further teaches the operating method of a DTMF decoder that combines software and hardware wherein the amplifier comprises a non-invert terminal, an invert terminal, and an output terminal (see figure 1, amplifier 16). It is inherently that the amplifier should be included a non-invert terminal, an invert terminal, and an output terminal).

Regarding claim 10, Hsieh further teaches the operating method of a DTMF decoder that combines software and hardware wherein the non-invert terminal couples to a first terminal of a telephone line, the invert terminal couples to a second terminal of the telephone line, and the output terminal outputs the amplified DTMF signal (see figure 1, Tip and Ring, amplifier 16, col.3, ln.11-25). See explanation of claim 8.

Regarding claim 11, Hsieh further teaches the operating method of a DTMF decoder that combines software and hardware wherein the amplified DTMF signal is converted from analog to digital by an analog to digital converter (see figure 1, A/D converter 17, col.3, ln.11-25).

Regarding claim 12, Hsieh further teaches the operating method of a DTMF decoder that combines software and hardware wherein a digital filtering is performed on the digital DTMF signal to complete a decoding operation by a CPU (see figure 3, microprocessor 12, col.3, ln.11-38).

Regarding claim 13, Hsieh further teaches the operating method of a DTMF decoder that combines software and hardware wherein a digital filtering is performed on the digital DTMF signal to complete a decoding operation by a digital logic operation circuit (i.e., microprocessor) (see figure 3, microprocessor 12, col.3, ln.11-38).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In order to expedite the prosecution of this application, the applicants are also requested to consider the following references. Although Xie et al. (U.S. Patent No. 5,644,634), Dighe (U.S. Patent No. 5,325,427), Yaguchi (U.S. Patent No. 5,818,929), and Jensen (Pub. No.: U.S. 2001/0031045) are not applied into this Office Action; they are also called to Applicants attention. They may be used in future Office Action(s). These references are also concerned for supporting the system and method for DTMF detection.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (703) 305-4987. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz can be reached on (703) 305-4708 and

IF PAPER HAS BEEN MISSED FROM THIS OFFICIAL ACTION PACKAGE, PLEASE CALL Customer Service at (703) 306-0377 FOR THE SUBSTITUTIONS OR COPIES.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to: (703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist, tel. No. 703-305-4700).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600